What is claimed is:

1. An isolated nucleic acid molecule encoding a polypeptide comprising an amino acid sequence that is at least 75% identical to SEQ ID NO:2 or 4 , or the complement of said nucleic acid molecule.

2. The isolated nucleic acid molecule of claim 1, wherein said nucleic acid molecule hybridizes under stringent conditions to a nucleic acid sequence complementary to a nucleic acid molecule comprising the sequence of nucleotides of SEQ ID NO:1 or 3, or the complement of said nucleic acid molecule.

3. The isolated nucleic acid molecule of claim 1, wherein said nucleic acid molecule encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or 4 or an amino acid sequence comprising one or more conservative substitutions in the amino acid sequence of SEQ ID NO:2 or 4.

4. The nucleic acid molecule of claim 1, wherein said nucleic acid molecule encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or 4, or the complement of said nucleic acid molecule.

5. The nucleic acid molecule of claim 1, wherein said nucleic acid molecule comprises the sequence of nucleotides of SEQ ID NO:1 or 3, or the complement of said nucleic acid molecule.

6. The nucleic acid molecule of claim 1, wherein said nucleic acid molecule has the nucleotide sequence of a cDNA.

7. The nucleic acid molecule of claim 1, wherein said nucleic acid molecule comprises contiguous nucleotides encoding the amino acid sequence WEKPI (SEQ ID NO: 5).

8. An isolated nucleic acid molecule, wherein said nucleic acid molecule:

(a) encodes a polypeptide having the amino acid sequence of SEQ ID NO:2; and

(b) comprises contiguous nucleotides encoding the amino acid sequences. WEKPI (SEQ ID NO: 5);

or the complement of said nucleic acid molecule.

9. A nucleic acid molecule less than 100 nucleotides in length and comprising at least 6 contiguous nucleotides of SEQ ID NO:1 or a complement thereof.

10. A nucleic acid vector comprising the nucleic acid molecule of claim 1.

11. A host cell comprising the isolated nucleic acid molecule of claim 1.

12. An isolated polypeptide at least 80% identical to a polypeptide selected from the group consisting of:

a) a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or 4;

b) a fragment of a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or 4, wherein the fragment comprises at least 6 contiguous amino acids of SEQ ID NO:2;

c) a derivative of a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or 4;

d) an analog of a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or 4;

e) a homolog of a polypeptide comprising an amino acid sequence of SEQ ID NO:2 and 4; and

f) a naturally occurring allelic variant of a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or 4, wherein the polypeptide is encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule of SEQ ID NO:1 or3, under stringent conditions.

13. The polypeptide of claim 12, wherein the polypeptide, or fragment thereof,

a) binds to a glycoprotein hormone receptor;

b) binds to a LGR orphan G-protein-coupled receptor;

c) binds to a glycoprotein hormone; or

d) binds to a cystine knot protein.

14. The polypeptide of claim 12, wherein the polypeptide, or fragment thereof, is glycosylated at one or more sites.

15. The polypeptide of claim 12, wherein the polypeptide, or fragment thereof, is not glycosylated.

16. The polypeptide of claim 12, wherein the polypeptide, or fragment thereof, comprises a cystine knot domain.

17. A protein multimer comprising a first polypeptide according to claim 12, and a second polypeptide.

18. A protein multimer comprising an ARP polypeptide and a second polypeptide.

19. The protein multimer according to claim 17 or 18, wherein said second polypeptide is identical to the first polypeptide.

20. The protein multimer according to claim 17, wherein said second polypeptide is an apha glycoprotein subunit.

21. The protein multimer according to claim 18, wherein said second polypeptide is an beta glycoprotein subunit.

22. The protein multimer according to claim 17 or 18, wherein said second polypeptide is a cystine knot protein.

23. The protein multimer according to claim 17, wherein said second polypeptide comprises the amino acid sequence of SEQ ID NO: 18.

24. The protein multimer according to claim 17 or 18, wherein said protein multimer is a dimer

25. An antibody that selectively binds to the polypeptide of claim 12, and fragments, homologs, analogs, and derivatives of said antibody.

26. An antibody that selectively binds to the protein multimer of claim 17 or 18, and fragments, homologs, analogs, and derivatives of said antibody.

27. A method of producing a BRP polypeptide, said method comprising the step of culturing the host cell of claim 11 under conditions in which the nucleic acid molecule is expressed.

28. A method of detecting the presence of the polypeptide of claim 12 in a sample, comprising contacting the sample with a compound that selectively binds to the polypeptide of claim 12 and determining whether the compound bound to the polypeptide of claim 12 is present in the sample.

29. A method of detecting the presence of a nucleic acid molecule of claim 1 in a sample, the method comprising contacting the sample with a nucleic acid probe or primer that selectively binds to the nucleic acid molecule and determining whether the nucleic acid probe or primer bound to the nucleic acid molecule of claim 1 is present in the sample.

30. A method for modulating the activity of the polypeptide of claim 12, the method comprising contacting a cell sample comprising the polypeptide of claim 12 with a compound that binds to said polypeptide in an amount sufficient to modulate the activity of the polypeptide.

31. A method of treating or preventing a reproductive disorder in a subject, the method comprising administering to a subject method comprising administering to a subject in need thereof a therapeutic selected from the group consisting of:

a) a ARP/ BRP nucleic acid;

b) a ARP/ BRP polypeptide and

c) a ARP/ BRP antibody;

wherein said therapeutic is administered in an amount sufficient to treat or prevent said reproductive disorder in said subject.

32. A method of treating or preventing a reproductive disorder in a subject, the method comprising administering to a subject method comprising administering to a subject in need thereof a therapeutic comprising a protein multimer of claim 17 or 18 wherein said therapeutic is administered in an amount sufficient to treat or prevent said reproductive disorder in said subject.

33. A pharmaceutical composition comprising a therapeutically or prophylactically effective amount of a therapeutic selected from the group consisting of:

a) a ARP/BRP nucleic acid;

b) a ARP/ BRP polypeptide and

c) a ARP/ BRP antibody

and a pharmaceutically acceptable carrier.

34. A pharmaceutical composition comprising a therapeutically or prophylactically effective amount of a therapeutic selected from the group consisting of the protein multimer of claim 17 or 18 and a pharmaceutically acceptable carrier.

35. A kit comprising in one or more containers, comprising a therapeutically or prophylactically effective amount of the pharmaceutical composition of claim 33 or 34.

36. A method for screening for a modulator of activity or of latency or predisposition to a reproductive disorder, said method comprising:

a) administering a test compound to a test animal at increased risk for a pathology associated with the polypeptide of claim 1, wherein said test animal recombinantly expresses a ARP/ BRP polypeptide;

b) measuring the activity of said polypeptide in said test animal after administering the compound of step (a); and

c) comparing the activity of said protein in said test animal with the activity of said polypeptide in a control animal not administered said polypeptide, wherein a change in the activity of said polypeptide in said test animal relative to said control animal indicates the test compound is a modulator of latency of, or predisposition to, a reproductive disorder.

37. The method of claim 35, wherein said test animal is a recombinant test animal that expresses a test protein transgene or expresses said transgene under the control of a promoter at an increased level relative to a wild-type test animal, and wherein said promoter is not the native gene promoter of said transgene.

38. A method for determining the presence of or predisposition to a reproductive disorder in a subject, the method comprising:

a) measuring the amount of a ARP/ BRP polypeptide or ARP/ BRP multimer in a sample from the subject; and

b) comparing the amount of said polypeptide in step (a) to the amount of the polypeptide present in a control sample,

wherein an alteration in the level of the polypeptide or multimer in step (a) as compared to the control sample indicates a disease condition.

39. A method for determining the presence of or predisposition t o a reproductive disorder in a subject, the method comprising:

a) measuring the amount of a ARP/ BRP nucleic acid in a sample from the mammalian subject; and

b) comparing the amount of said nucleic acid in step (a) to the amount of the nucleic acid present in a control sample,

wherein an alteration in the level of the nucleic acid in step (a) as compared to the control sample indicates a disease condition.

40. A method for expressing an ARP/BRP polyppetide as a product if an endogenous gene in a cell, wherein the polypeptide is expressed at a modified level ina comparison to the wild type cell, the method comprising;

(a) transfecting the cell with a DNA constuct,, the DNA constrict comprising a transcription regulatory element in operative connection to the endogenous gene, thereby producing a recombinant cell and/or

(b) transfecting the cell with a DNA constuct,, the DNA constrict comprising a amplifiable gene and a DNA targeting sequence capable of inserting the amplifiable gene in operative connection to the endogenous gene, thereby producing a recombinant cell a

(c) culturing the recombinant cell, and if desired, selecting cells containing multiple copies of the endogenous gene.